

ABSTRACT

Resilient contact structures are mounted directly to bond pads on semiconductor dies, prior to the dies being singulated (separated) from a semiconductor wafer. This enables the 5 semiconductor dies to be exercised (e.g., tested and/or burned-in) by connecting to the semiconductor dies with a circuit board or the like having a plurality of terminals disposed on a surface thereof. Subsequently, the semiconductor dies may be singulated from the semiconductor wafer, whereupon the same 10 resilient contact structures can be used to effect interconnections between the semiconductor dies and other electronic components (such as wiring substrates, semiconductor packages, etc.). Using the all-metallic composite interconnection elements of the present invention as the 15 resilient contact structures, burn-in can be performed at temperatures of at least 150°C, and can be completed in less than 60 minutes.